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Datasheet for the decision of 21 March 2012

Case Number: T 1377/08 - 3.3.05

Application Number: 00902267.4

Publication Number: 1143814

IPC: A23L 3/00, B01J 8/46

Language of the proceedings: EN

Title of invention:
Apparatus for gas treatment of products

Patentee:
John Bean Technologies AB

Opponent:
Marel Salmon A/S

Headword:
Gas treatment/JOHN BEAN

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no) - trivial technical solution"

Decisions cited:
T 0650/01

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1377/08 - 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 21 March 2012

Appellant: (Opponent)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 15 April 2008 rejecting the opposition filed against European patent No. 1143814 pursuant to Article 101(2) EPC.

Composition of the Board:

Chairman: G. Raths
Members: J.-M. Schwaller
C. Vallet

Summary of Facts and Submissions

I. This appeal lies from the decision of the opposition division to reject the opposition filed against European patent Nr. 1 143 814, claim 1 of which reads as follows:

"*1. An apparatus for gas treatment of products, comprising a housing (1) having top, bottom and side walls (2, 3, 4, 5), a conveyor belt (8) for transporting the products along a first path (10) in the housing (1), a tunnel (11) having perforated walls (12) and enclosing the conveyor belt (8) along the first path (10), gas circulation means (18) communicating with the tunnel (11) via the perforated walls (12) for circulating gas into the tunnel (11) in the form of gas jets impinging upon the products carried by the conveyor belt (8), and out of the tunnel (11) in a return channel (13) back to the gas circulation means (18), and gas-conditioning means (19, 20) positioned in the return channel (13) for conditioning the gas circulated by the gas circulation means (18),*
characterised by *walls (15-17) being separated from the walls (2-5) of the housing (1), said separated walls (15-17) being connected with the perforated walls (12) of the tunnel (11) and having an opening towards and connected to an outlet of the gas circulation means (18) in order to form a high pressure chamber (14) above the tunnel (11) and constituting a gas circulation channel from said outlet of the gas circulation means (18) to the perforated walls (12) of the tunnel (11), at least one vertical part of the walls (15-17) forming the high-pressure chamber (14)*

being removable so as to provide access to the inside of the high-pressure chamber (14)."

II. Among the documents cited during the opposition procedure, the following are of relevance for the present decision:

D1: US 4 584 849

D6: SU 1 345 034 A1 and its translation into English

D7: US 5 408 921

III. In the contested decision, the opposition division held claim 1 as granted to be novel in particular because the device according to D6 did not disclose removable walls, and the device according to D7 was provided with a pressure chamber located above the conveyor belt which was not formed by walls separated from the housing.

Closest state of the art was represented by the device of D7, which required a reduced pressure chamber positioned below the tunnel enclosing the conveyor belt.

The technical problem consisted in providing an alternative device presenting a compact design and meeting the high hygienic standard of the food industry.

The solution provided by the apparatus claimed involved an inventive step because a lot of modifications had to

be made to the devices known in the art to arrive at the apparatus according to claim 1 as granted.

IV. In its grounds of appeal dated 15 August 2008, the appellant contested the above decision and reiterated its objections under Articles 54 (1)(2) and 56 EPC based in particular on:

- prior use by sale and installation in December 1998 of a freezer onboard Ôrfirisey;

- lack of novelty in the light of the disclosure of document D6;

- lack of inventive step over the device known from document D6 in combination with the teaching in document D1.

V. In its response to the grounds of appeal dated 19 December 2008, the respondent refuted the above objections.

VI. Following the summons to oral proceedings, the appellant requested that witnesses be heard at the oral proceedings.

VII. In the communication dated 30 January 2012, the board decided not to summon any witnesses. It also expressed its preliminary opinion that the alleged prior use/sale did not appear to prejudice the novelty of the subject-matter claimed.

VIII. At the oral proceedings, which were held on 21 March 2012, the discussion essentially focused on the

inventive step issue based on the disclosures of documents D6, D7 and D1.

IX. The parties' requests were established as follows:

The appellant requested that the decision be set aside and that the patent be revoked.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

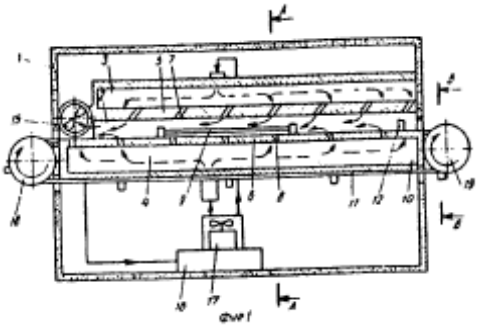
Claim 1 as granted - Inventive step

1. The alleged invention concerns an apparatus for gas treatment of products, specifically food products, using gas jets which impinge upon the products for e. g. cooling, heating or drying them (paragraph [0001] of the contested patent).

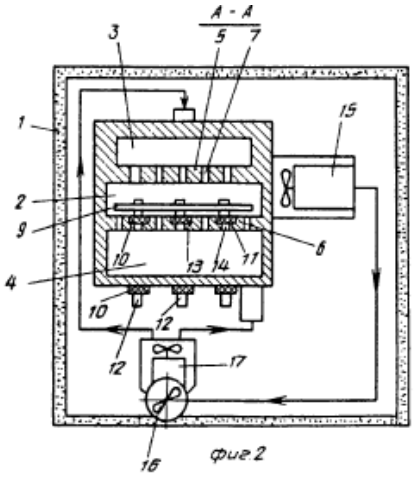
2. As regards the starting point for assessing inventive step, the boards of appeal have repeatedly pointed out that the closest state of the art should be represented by a document which, with regard to the claimed subject-matter and from the point of view of a skilled person on the priority date applicable, pertains to the same or closely related technical field, discloses subject-matter conceived for the same purpose and has the most relevant technical features in common, i.e. requires the minimum of structural modifications, and relates to the same or a similar technical problem (see e.g. T 0650/01, point 4.3 of the reasons). In the

present case, two documents - D6 or D7 - come into consideration.

2.1 Document D6 relates to a device for cooling products, illustrated in its Figures 1 and 2 and reproduced hereinafter.



фиг1



2.2 As explained in item (57) of the translation into English of D6, the product 9 to be cooled - which has an extended supporting surface - enters into heat-insulated chamber 1 and, falling into trough 2, "floats" under the effect of air jets issuing from inclined openings 8 in the upper wall 6 of lower box 4. Product 9 is thereby blown on from above by air jets issuing from inclined openings 7 in lower wall 5 of upper box 3. Coming into contact with load-conveying

elements 12 fixed on the surface of endless elastic belts 7, product 9 is displaced along trough 2, being subjected to the thermal action of the cooling compressed air issuing from inclined openings 7 and 8. The flow of used air exits from the entrance opening of trough 2 and passes by means of drawing fan 15 into air cooler 16, from which the cooled air is drawn by fan 17 into upper box 3 and lower box 4, from where it passes through openings 7 and 8 into trough 2.

2.3 The respondent contested that D6 represented the closest state of the art, because in its view this document concerned another technical field, namely "technological cooling", and not the treatment or freezing of food, by a gas. The board cannot accept this argument because claim 1 only refers to "gas treatment of products", without any further restriction to food treatment or freezing, and so "technological cooling" falls under the treatment covered by claim 1 at issue.

According to the respondent, the device according to D6 also did not comprise walls separated from the housing so as to form a pressure chamber above the treatment tunnel, because as could be seen from Figure 1, one end wall of the high pressure chamber was common with the housing of the device. This argument is not accepted by the board because as shown by Figure 2 of D6 - a cross-sectional view of the device according to Figure 1 - the two vertical walls and the top wall of the upper pressure chamber (3) are clearly separated from the housing (1), like the side walls (15, 16) and the top wall (17) which form the pressure chamber defined in claim 1 at issue (see also Figure 2 of the patent).

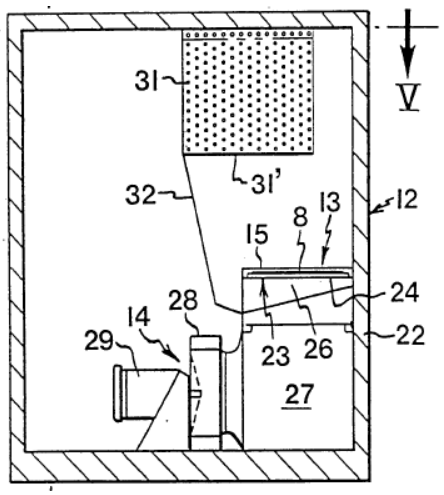
The board also does not accept the further argument of the respondent that in D6 the product was floating without being carried by the conveyor belt because even if the product is described as "floating" under the effect of air jets issuing from inclined openings (8) (Figure 1), it is clear from claim 1 of D6 that the conveyor **displaces** the product, and so inevitably it "carries" the said product from the tunnel inlet to its outlet, as in claim 1 at issue.

2.4 It follows therefrom, that the sole feature not disclosed in D6 is the provision of a vertical part of the walls being removable so as to provide access to the inside of the high-pressure chamber.

2.5 D7 (claim 1) discloses an apparatus for gas treatment of products, comprising a housing (22) having an inlet opening and an outlet opening; a foraminous conveyor belt (8) for transporting the products through the housing along a path from the inlet opening to the outlet opening; a tunnel (13) enclosing the conveyor belt at least along a part of the path from the inlet opening to the outlet opening, said tunnel having a top wall, two side walls and a bottom wall, one of the top wall and the bottom wall being perforated substantially over the whole area thereof and the other of the top wall and the bottom wall having perforated sections extending transversely of the path from the inlet opening to the outlet opening and a plurality of apertures alternating with said perforated sections; a vacuum chamber (27); a plurality of ducts, each duct connecting one of said apertures with the vacuum chamber; gas suction means communicating with the

vacuum chamber for creating a vacuum therein, the gas being circulated from the interior of the tunnel to the exterior thereof and back to the interior of the tunnel through said perforated wall and said perforated sections, such that gas sucked through said perforated wall and said perforated sections from the exterior thereof forms gas jets impinging upon the conveyor belt; and gas conditioning means for conditioning the gas circulated by the gas suction means.

It is undisputed that in the chamber above the tunnel the pressure is higher than the pressure in the vacuum chamber (27). From Figure 3 - a cross-sectional view of the above apparatus - reproduced hereinafter, it can be seen that one of the lateral walls forming the "high" pressure chamber materialized by walls 32, 31' and 22 is common with the housing, and so the walls of said "high" pressure chamber are not "separated from the housing", in the sense of claim 1 at issue.



A further distinguishing feature with the subject-matter of claim 1 at issue is that the above apparatus does have one vertical part of the walls forming the

high-pressure chamber which is removable so as to provide access to the inside of the chamber.

2.6 So, while D7 is distinguished from the subject-matter claimed in two aspects, D6 differs therefrom only by the absence of a removable wall providing access to the inside of the chamber.

2.7 The respondent's argument that D7 represented the closest state of the art because it addressed the same aspects as the contested patent, namely the high hygienic requirements of the food industry (D7, column 1, lines 31 to 33), cannot be accepted because the device claimed does not make use of any structural apparatus features specifically dedicated to or designed for the food treatment. Furthermore, claim 1 of the patent in suit does not concern the gas treatment of food, but the gas treatment of "products".

2.8 It follows from the above considerations that document D7 cannot be considered to represent the most promising springboard towards the invention, since it is distinguished therefrom by two technical features. On the other hand, D6 which discloses a device directed to the same purpose (the gas treatment of products) and which shows the minimum of structural and functional modifications with respect to the subject-matter of claim 1, is - according to the board - the most promising starting point for evaluating the inventive merits of the alleged invention.

3. The question now arises, which problem is supposedly solved by the alleged invention when starting from this state of the art.

According to both the contested patent (paragraphs [0007] and [0008]) and the respondent, the problem underlying the contested patent was to be seen in the provision of a compact apparatus which meets the high hygienic requirements of the food industry.

4. The solution to this technical problem as proposed in the contested patent, namely the apparatus according to claim 1 as granted, is characterised in particular in that at least one vertical part of the walls forming the high-pressure chamber are removable so as to provide access to the inside of the high-pressure chamber.

5. As to the question whether the above problem has been effectively solved:

5.1 The board does not see on the one hand how the claimed apparatus could be considered more compact than the one disclosed in D6 since the presence of a further chamber below the tunnel, such as in D6, is not excluded from the wording of claim 1 at issue. Hence it cannot be assessed whether the apparatus claimed is more compact than the one disclosed in D6 and so the compactness cannot be retained in the problem to be solved.

The other issue - namely the high hygienic requirements of the food industry - can also not be retained in the problem to be solved, because the apparatus claimed is not specific to food industry. As a matter of fact, the device claimed does not make use of any structural apparatus features specifically dedicated to or designed for the food treatment and, on the other hand,

it merely concerns the gas treatment of **"products"**, without any restriction to the treatment of food.

5.2 The board furthermore observes that the principle of providing an easy access to all parts of an apparatus is not a specific requirement of the food industry, it is a general requirement for the maintenance and cleaning of any type of apparatus in any type of industry.

5.3 It follows from the above considerations that the problem addressed hereinabove cannot be acknowledged as the one objectively to be solved. Under these circumstances and according to the jurisprudence of the boards of appeal, a reformulation thereof in less ambiguous terms is necessary.

5.4 Under the present circumstances, the board judges that the problem is to be seen in the provision of an alternative tunnel apparatus for gas treatment of products which is easy to maintain.

6. It remains to be decided whether the proposed solution is obvious in view of the state of the art.

6.1 The board judges a priori that the proposed solution is trivial for a skilled person faced with the problem of rendering the apparatus of document D6 easy for maintenance, because it is common general knowledge that an apparatus which has to be cleaned or serviced must have sufficient access facilities to carry out the necessary maintenance and cleaning on the sensitive parts located in the interior of the machine, independently of whether the machine is designed for

the treatment of food or for the treatment of any other kind of product.

6.2 For the sake of completeness, the board also refers to document D1 which discloses a food freezing tunnel provided with removable vertical access panels or doors for inspections and cleaning purposes (reference signs (230, 232) in Figures 2 and 5). The respondent's argument that in D1 the air flow is different from the one in the apparatus defined in claim 1 cannot be retained because manifestly when the apparatus is to be serviced or cleaned, the air flow must be stopped anyway and thus it is irrelevant for the maintenance operations.

6.3 It follows that the skilled person faced with the problem in item 5.4 will find in the above teachings a strong incentive to make use of removable vertical panels or doors in the apparatus known from D6 and so arrive at the subject-matter of claim 1 at issue, which thus is considered obvious in view of the disclosure of document D6 taken in combination with common general knowledge, or alternatively in combination with the teaching of document D1.

The subject-matter of claim 1 as granted therefore does not involve an inventive step pursuant to Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside

2. The patent is revoked

The Registrar: The Chairman:

C. Vodz G. Raths